

## ABSTRACT

An acoustic wave identification transponder device, having a substrate, an electroacoustic transducer generating an acoustic wave in said substrate and a set of encoding elements disposed  
5 in a path of the acoustic wave for modifying the acoustic wave, having elements which reflect portions of the acoustic wave having a component orthogonal to the incident wave. The reflectors may be, for example, trackchangers or reflective arrays compressors (RAC). The wave may be phase-amplitude modulated for increased efficiency expressed in bits per tap. Such phase amplitude modulation is preferably imposed by partial beam width phase delay elements  
10 disposed within an acoustic beam path.